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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/785,486	02/20/2001	Shinji Takeda	TM&K0008	9092

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EXAMINER
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GRAYBILL, DAVID E

ART UNIT	PAPER NUMBER
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2827

DATE MAILED: 12/31/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

09/785,486

**Applicant(s)**

SHINJI TAKEDA

**Examiner**

David E Graybill

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 16 October 2002 and 19 June 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 17-50 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 17-50 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 February 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 14.
- 4) ☒ Interview Summary (PTO-413) Paper No(s). 18.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

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The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the details of claims 17-50 must be shown or the features canceled from the claims. No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claims 17-50 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention. The undescribed subject matter of the claimed invention is the entirety of the claims.

To determine adequacy of written description MPEP 2163IIA2(a) (redacted) instructs:

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(i) For Each Claim Drawn to a Single Embodiment Or Species:

(A) Determine whether the application describes an actual reduction to practice of the claimed invention.

(B) If the application does not describe an actual reduction to practice, determine whether the invention is complete as evidenced by a reduction to drawings or structural chemical formulas that are sufficiently detailed to show that applicant was in possession of the claimed invention as a whole.

(C) If the application does not describe an actual reduction to practice or reduction to drawings or structural chemical formula as discussed above, determine whether the invention has been set forth in terms of distinguishing identifying characteristics as evidenced by other descriptions of the invention that are sufficiently detailed to show that applicant was in possession of the claimed invention.

(1) Determine whether the application as filed describes the complete structure (or acts of a process) of the claimed invention as a whole.

(2) If the application as filed does not disclose the complete structure (or acts of a process) of the claimed invention as a whole, determine whether the specification discloses other relevant identifying characteristics sufficient to describe the claimed invention in such full, clear, concise, and exact terms that a skilled artisan would recognize applicant was in possession of the claimed invention. Any claim to a species that does not meet the test described under at least one of (a), (b), or (c) must be rejected as lacking adequate written description under 35 U.S.C. 112, para. 1.

ii) For each claim drawn to a genus:

**The written description requirement for a claimed genus may be satisfied through sufficient description of a representative number of species by actual reduction to practice (see i)(A), above), reduction to drawings (see i)(B), above), or by disclosure of relevant, identifying characteristics, i.e., structure or other physical and/or chemical properties, by functional characteristics coupled with a known or disclosed correlation between function and structure, or by a combination of such identifying characteristics, sufficient to show the applicant was in possession of the claimed genus (see i)(C), above).**

The instant application does not describe sufficient description of a representative number of species by actual reduction to practice, reduction to drawings, or by disclosure of relevant, identifying characteristics, i.e., structure or other physical and/or chemical properties, by functional characteristics coupled with a known or disclosed correlation between function and structure, or by a combination of such identifying characteristics, sufficient to show the applicant was in possession of the claimed genus.

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The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 17-50 are rejected under 35 U.S.C. 112, first paragraph, because the specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make or use the invention commensurate in scope with these claims. Specifically, the specification, while being enabling for the species of disclosed Examples 1-7, does not reasonably provide enablement for the genus claimed. To further clarify, the claimed invention as a whole is not enabled because the material is disclosed in terms of the method of making it coupled with its function, and there is no disclosed or art-recognized correlation or relationship between the composition or structure of the material and its function. In addition, the invention involves unpredictable chemical reactions, and absent a statement applicable to the genus as a whole, it is not obvious from the disclosure of the species, what other species will work. As a result, a person skilled in the art could not make the genus as a whole without undue experimentation.

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The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 17-50 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 17 the scope of the limitation, "A material comprising an organic die-bonding film having a peel strength of 0.5 kgf/(5 mm x 5 mm chip) or higher" cannot be determined, and the limitation appears to in error because peel strength is not an intrinsic property of a single material. Rather, peel strength is a measure of the strength of an adhesive bond between two or more materials.

In claim 17, the scope of the conditional limitation, "A material having a peel strength of 0.5 kgf/(5 mm x 5 mm chip) or higher when a semiconductor has been bonded to a support member with said material under conditions of 100-230°C temperature and pressure of 0.1-30 gf/mm<sup>2</sup>" cannot be determined because the composition or structure of the material that satisfies the condition, "having a peel strength of 0.5 kgf/(5 mm x 5 mm chip)

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or higher when a semiconductor has been bonded to a support member with said material under conditions of 100-230°C temperature and pressure of 0.1-30 gf/mm<sup>2</sup>" is not disclosed, and cannot otherwise be determined.

In claims 18-22 and 30, the scope of the limitation, "A material comprising an organic die-bonding film having the property of bonding a semiconductor chip to a support member under conditions of 100-230°C temperature and pressure of 0.1-30 gf/mm<sup>2</sup>" cannot be determined because having the capability of bonding a semiconductor chip to a support member under conditions of 100-230°C temperature and pressure of 0.1-30 gf/mm<sup>2</sup> is not a material property. Furthermore, the composition or structure of the material that satisfies the condition, "having the property of bonding a semiconductor chip to a support member under conditions of 100-230°C temperature and pressure of 0.1-30 gf/mm<sup>2</sup>" is not disclosed and cannot otherwise be determined.

In the rejections infra, reference labels are generally recited only for the first recitation of identical claim language.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 17-19, 21-27, 31, 33, 35, 37, 40 and 42-50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morita (5406124).

At column 3, line 63 to column 4, line 35, column 7, lines 6-9, column 8, lines 1-8 and 24-47, column 9, lines 14-35, column 10, lines 14-15, column 14, lines 3-14 and 40-46, column 16, lines 18-34, column 17, lines 13-14, and column 18, lines 1-10 and 29-30, Morita teaches the following:



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Morita teaches the following:

17. A material 4 comprising an organic die-bonding film having a peel strength when a semiconductor 1 has been bonded to a support material 2 under conditions of 250°C-450°C temperature and pressure of 0.1-30 gf/mm<sup>2</sup>.

18. A material comprising an organic die-bonding film having the property of bonding a semiconductor chip 1 to a support member 2 under conditions of 250°C-450°C temperature and pressure of 0.1-30 gf/mm<sup>2</sup>, and having a saturation moisture absorption of 1.0% by volume or less.

19. A material comprising an organic die-bonding film having the property of bonding a semiconductor chip to a support member under conditions of 250°C-450°C temperature and pressure of 0.1-30 gf/mm<sup>2</sup>, and having a modulus of elasticity of 10 MPa or less at a temperature of 250°C.

21. A material comprising an organic die-bonding film having the property of bonding a semiconductor chip to a support member under conditions of 250°C-450°C temperature and pressure of 0.1-30 gf/mm<sup>2</sup>, having a residual volatile component in an amount of not more than 3.0% by weight.

22. A material comprising an organic die-bonding film having the property of bonding a semiconductor chip to a support member

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under conditions of 250°C-450°C temperature and pressure of 0.1-30 gf/mm<sup>2</sup>, having a water absorption of 1.5% by volume or less.

23. A material according to 17, comprising an organic die-bonding film further having a modulus of elasticity of 10 Mpa or less at a temperature of 250°C.

24. A material according to 23, comprising an organic die-bonding film further having a water absorption of 1.5% by volume or less.

25. A material according to 24, comprising an organic die-bonding film further having a residual volatile component in an amount of not more than 3.0% by weight.

26. A material according to 25, comprising an organic die-bonding film further having a saturation moisture absorption of 1.0% by volume or less.

27. A material according to 26, comprising an organic die-bonding film further having a void volume of 10% or less in terms of voids present in the material and at an interface between said material and a support member at a stage where a semiconductor had been bonded to a support member by said material.

31. A material according to 17, being a self-supporting film.

33. A material according to 17, having a single layer structure.

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35. A material according to 17, wherein said material is an organic material comprising one or more components selected from the group consisting of epoxy resin, silicone resin, acrylic resin, and polyimide resin.

37. A material according to 17, wherein said material is an organic material comprising a polyimide resin.

40. A material according to 17, wherein said material is an organic material comprising 4,4'-diaminodiphenyl ether.

42. A material according to 17, wherein said material is an organic material comprising a polyimide synthesized from 1,2-(ethylene)bis(trimellitate anhydride) and 2,2-bis[4-(4-aminophenoxy)phenyl] propane.

43. A material according to 17, wherein said material is an organic material comprising a polyimide synthesized from 1,2-(ethylene)bis(trimellitate anhydride), 1,10-(decamethylene)bis(trimellitate anhydride), and 2,2-bis[4-(4-aminophenoxy)phenyl] propane.

44. A material according to 17, wherein said material is an organic material comprising a polyimide synthesized from 1,10-(decamethylene)bis(trimellitate anhydride), and 2,2-bis[4-(4-aminophenoxy)phenyl] propane.

45. A material according to 17, wherein said material is an organic material comprising an epoxy resin.

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46. A material according to 17, wherein said material is an organic material comprising a polyimide resin and an epoxy resin.

47. A material according to 35, further comprising a metal filler.

48. A material according to 36, further comprising a metal filler.

49. A material according to 36, made by a process comprising the steps of coating a varnish on a carrier film and peeling the die bonding material from said carrier film.

50. A material according to 36, made by a process comprising the steps of coating a varnish on a carrier film and peeling the die bonding material from said carrier film.

To further clarify the teaching of a water absorption of 1.5% by volume or less, the teaching of Morita of "less than 1.2%" anticipates this limitation. In particular, although Morita does not appear to explicitly specify whether the measure is by volume or by weight, both specific examples of 1.2% by volume and 1.2% by weight fall within the claimed range. Moreover, both ranges of 1.2% by volume or less and 1.2% by weight or less fall within the claimed range, with the common lower limit of the ranges equal to zero percent.

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In the alternative, Morita teaches that percent water absorption is a result-effective variable. Therefore, it would have been an obvious matter of design choice bounded by well known manufacturing constraints and ascertainable by routine experimentation and optimization to choose the particular claimed percent water absorption limitation because applicant has not disclosed that the limitation is for a particular unobvious purpose, produces an unexpected result, or is otherwise critical, and it appears prima facie that the process would possess utility using another water absorption. Indeed, it has been held that optimization of range limitations are prima facie obvious absent a disclosure that the limitations are for a particular unobvious purpose, produce an unexpected result, or are otherwise critical. See MPEP 2144.05(II):

"Generally, differences in concentration or temperature will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such concentration or temperature is critical. '[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation.'" In re Aller, 220 F.2d 454, 105 USPQ 233, 235 (CCPA 1955). See also In re Hoeschele, 406 F.2d 1403, 160 USPQ 809 (CCPA 1969), Merck & Co. Inc. v. Biocraft Laboratories Inc.,

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874 F.2d 804, 10 USPQ2d 1843 (Fed. Cir.), cert. denied, 493 U.S. 975 (1989), and In re Kulling, 897 F.2d 1147, 14 USPQ2d 1056 (Fed. Cir. 1990). As set forth in MPEP 2144.05(III), "Applicant can rebut a prima facie case of obviousness based on overlapping ranges by showing the criticality of the claimed range. 'The law is replete with cases in which the difference between the claimed invention and the prior art is some range or other variable within the claims. . . . In such a situation, the applicant must show that the particular range is critical, generally by showing that the claimed range achieves unexpected results relative to the prior art range.' In re Woodruff, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990). See MPEP § 716.02 - § 716.02(g) for a discussion of criticality and unexpected results."

Although Morita teaches a material having a peel strength, Morita does not appear to explicitly teach that the material has a peel strength of 0.5 kgf/(5 mm x 5 mm chip) or higher. Furthermore, it cannot be determined if the largest explicitly taught peel strength of Morita; namely a 90 degree peel strength of 67g/10mm<sup>2</sup> chip, is equivalent to the claimed peel strength of 0.5 kgf/(5 mm x 5 mm chip) or higher because the conversion factor between the two different peel strength measuring techniques cannot be determined. Nonetheless, as cited, Morita

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teaches that an increase in peel strength is desirable, and it would have been an obvious matter of design choice bounded by well known manufacturing constraints and ascertainable by routine experimentation and optimization to choose the particular claimed peel strength range because applicant has not disclosed that the range is for a particular unobvious purpose, produces an unexpected result, or is otherwise critical, and it appears prima facie that the product and process would possess utility using another range. Indeed, it has been held that optimization of range limitations are prima facie obvious absent a disclosure that the limitations are for a particular unobvious purpose, produce an unexpected result, or are otherwise critical.

Also, Morita does not appear to explicitly teach bonding under conditions of 100°C-230°C temperature. Nevertheless, Morita teaches that bonding temperature is a result-effective variable. Moreover, it would have been an obvious matter of design choice bounded by well known manufacturing constraints and ascertainable by routine experimentation and optimization to choose the particular claimed bonding temperature limitation because applicant has not disclosed that the limitations is for a particular unobvious purpose, produces an unexpected result, or is otherwise critical, and it appears prima facie that the

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invention would possess utility using another temperature. Indeed, it has been held that optimization of range limitations are prima facie obvious absent a disclosure that the limitations are for a particular unobvious purpose, produce an unexpected result, or are otherwise critical.

Although Morita does not appear to explicitly teach the process limitations "coating a varnish on a carrier film and peeling the die bonding material from said carrier film," the product of Morita inherently possesses the structural characteristics imparted by the process limitation. See *In re Fitzgerald, Sanders, and Bagheri*, 205 USPQ 594 (CCPA 1980).

Claims 20, 28 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morita as applied to claims 17-19, 21-27, 31, 33, 35, 37, 40 and 42-50, and further in combination with Hozoji (JP5-218107).

As cited, Morita teaches the following:

20. A material comprising an organic die-bonding film having the property of bonding a semiconductor chip to a support member under conditions of 100-230°C temperature and pressure of 0.1-30 gf/mm<sup>2</sup>, at a stage where a semiconductor has been bonded to a support member by the material.



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However, Morita does not appear to explicitly teach a void volume of 10% or less in terms of voids present in the material and at an interface between the material and a support member.

Nonetheless, in the English abstract and Table 1, Hozoji teaches a material having a void volume of 10% or less in terms of voids present in the material and at an interface between said material and a support member. Moreover, it would have been obvious to combine the product of Hozoji with the product of Morita because it would facilitate adhesion.

To further clarify the teaching of a void volume of 10% or less, it is noted that Hozoji teaches that a defect such as a void, etc., is eliminated.

In addition, in the combination, Morita teaches the following:

28. A material according to 20, comprising an organic die-bonding film further having a water absorption of 1.5% by volume or less, having a saturation moisture absorption of 1.0% by volume or less, and having a modulus of elasticity of 10 MPa or less at a temperature of 250°C.

29. A material according to claim 20, comprising an organic die-bonding film further having a saturation moisture absorption of 1.0% by volume or less, having a modulus of elasticity of 10

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MPa or less at a temperature of 250°C, and having a peel strength.

Claims 30, 32, 34, 36 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morita as applied to claims 17-19, 21-27, 31, 33, 35, 37, 40 and 42-50, and further in combination with Hozoji (JP5-218107).

As cited, Morita teaches the following:

30. A material comprising an organic die-bonding film having the property of bonding a semiconductor chip to a support member under conditions of 250°C temperature and pressure of 0.1-30 gf/mm<sup>2</sup>, and having a water absorption of 1.5% by volume or less, a saturation moisture absorption of 1.0% by volume or less, a modulus of elasticity of 10 MPa or less at a temperature of 250°C, at a stage where a semiconductor has been bonded to a support member by said material, a peel strength at a stage where a semiconductor has been bonded to a support member with said material, and a residual volatile component in an amount of not more than 3.0% by weight.

However, Morita does not appear to explicitly teach a void volume of 10% or less in terms of voids present in the material and at an interface between said material and a support member.

Nonetheless, in the English abstract and Table 1, Hozoji teaches a material having a void volume of 10% or less in terms

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of voids present in the material and at an interface between said material and a support member. Moreover, it would have been obvious to combine the product of Hozoji with the product of Morita because it would facilitate adhesion.

To further clarify the teaching of a void volume of 10% or less, it is noted that Hozoji teaches that a defect such as a void, etc., is eliminated.

In addition, in the combination, Morita teaches the following:

32. A material according to 30, being a self-supporting film.

34. A material according to 30, having a single layer structure.

36. A material according to 30, wherein said material is an organic material comprising one or more components selected from the group consisting of epoxy resin, silicone resin, acrylic resin, and polyimide resin.

38. A material according to 30, wherein said material is an organic material comprising a polyimide resin.

Claim 39 is rejected under 35 U.S.C. 103(a) as being unpatentable over Morita as applied to claims 17-19, 21-27, 31, 33, 35, 37, 40 and 42-50, and further in combination with Jackson (4965331).

Morita does not appear to explicitly teach the following:

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39. A material according to 17, wherein said material is an organic material comprising bis(4-amino-3,5-dimethylphenyl)methane.

Nevertheless, as cited, Morita teaches an "aromatic diamine," and at column 2, lines 41-59, Jackson teaches an organic material comprising the aromatic diamine bis(4-amino-3,5-dimethylphenyl)methane. In addition, it would have been obvious to combine the product of Jackson with the product of Morita because it would provide an aromatic diamine.

Claim 41 is rejected under 35 U.S.C. 103(a) as being unpatentable over Morita as applied to claims 17-19, 21-27, 31, 33, 35, 37, 40 and 42-50, and further in combination with Baumann (5296567).

Morita does not appear to explicitly teach the following:

41. A material according to 17, wherein said material is an organic material comprising bis(4-amino-3,5-diisopropylphenyl)methane.

Notwithstanding, as cited, Morita teaches an "aromatic diamine," and at column 5, lines 4-34; and column 5, lines 1-5, Baumann teaches an organic material comprising the aromatic diamine bis(4-amino-3,5-diisopropylphenyl)methane. In addition, it would have been obvious to combine the product of bis(4-

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amino-3,5-diisopropylphenyl)methane with the product of Morita because it would provide an aromatic diamine.

The Declaration under 37 CFR 1.132 filed 6-19-2 is insufficient to overcome the rejection of claims 17-50 for the following reasons:

The Declaration is insufficient because it refers only to the system described in the instant application and not to the individual claims of the application. Thus, there is no showing that the objective evidence of nonobviousness is commensurate in scope with the claims. See MPEP § 716.

The Declaration is also insufficient because the objective evidence of nonobviousness is not commensurate in scope with the claims. In particular, the showing of unexpected results are not reviewed to determine whether the results occur over the entire claimed range. In re Clemens, 622 F.2d 1029, 1036, 206 USPQ 289, 296 (CCPA 1980).

Similarly, the Declaration is insufficient because it does not compare the claimed invention with the closest prior art which is commensurate in scope with the claims. For example, a polyimide of the claimed invention is compared to a different polyimide of the "closest" prior art; yet, both the closest prior art and the instant claims recite an identical polyimide. For that matter, Morita explicitly teaches all of the structural

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and composition limitations of the instant claims; therefore, the closest prior art of Morita includes all of the structural and composition limitations of the claims.

Also, in the remarks filed 10-16-2, applicant admits that it cannot be determined if the teaching of Morita of a 90 degree peel strength of 67g/10mm<sup>2</sup> chip is equivalent to the claimed peel strength. Yet applicant also declares that the claimed peel strength is an unexpected result in relation to the peel strength of Morita. This declaration of unexpected results is respectfully traversed because the claimed result cannot be declared unexpected in relation to the peel strength of Morita when the relationship to the peel strength of Morita cannot be determined.

In any case, at column 7, lines 65-68, Morita teaches unexpected results; therefore, the unexpected results alleged in the Declaration are not unexpected.

In view of the foregoing, when all of the evidence presented in the Declaration is considered, the totality of the rebuttal evidence of nonobviousness fails to outweigh the evidence of obviousness.

Applicant's amendment and remarks filed 6-19-2 and 10-16-2 have been fully considered, are addressed in the rejection supra and are further addressed infra.

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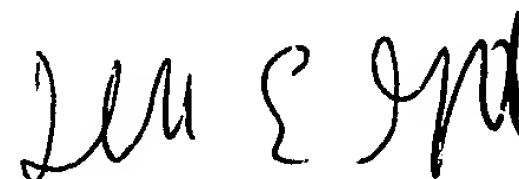
Applicant alleges that the Office "admits that the Morita reference does not disclose a '17 degree peel strength of 0.5 Kgf/5mm x 5mm chip or above [sic]." This allegation is respectfully traversed because this is not admitted; rather, it is maintained that "Morita **does not appear to explicitly teach** [emphasis added] that the material has a peel strength of 0.5 kgf/(5 mm x 5 mm chip) or higher."

The art made of record and not applied to the rejection is considered pertinent to applicant's disclosure. It is cited primarily to show inventions similar to the instant invention.

***Any telephone inquiry of a general nature or relating to the status (MPEP 203.08) of this application or proceeding should be directed to Group 2800 Customer Service whose telephone number is 703-306-3329.***

Any telephone inquiry concerning this communication or earlier communications from the examiner should be directed to David E. Graybill at (703) 308-2947. Regular office hours: Monday through Friday, 8:30 a.m. to 6:00 p.m.

The fax phone number for group 2800 is 703/3087724.



David E. Graybill  
Primary Examiner  
Art Unit 2827

D.G.

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